Claims

[c1]   1. A method of managing changes in a bill of materials, the bill of materials organized in an expandable list format having parent parts and children parts associated with the parent parts, the method comprising:

providing a first bill of materials;

linking a parent part in the first bill of materials with a first child part by a first relationship;

revising the first bill of materials by linking the parent part with a second child part by a second relationship, different than the first relationship; and,

providing a revised bill of materials listing the first child part, first relationship, second child part, and the second relationship.

[c2]   2. The method of claim 1 further comprising:

prior to revising the first bill of materials, storing a first revision number with information relating to the first parent part; and,

storing a second revision number, subsequent linking the parent part with the second child part, the second revision number greater than the first revision number.

[c3]   3. The method of claim 1 comprising linking the parent part with a plurality of children parts by the first relationship.

[c4]   4. The method of claim 3, wherein the first relationship is a part part relationship.

[c5]   5. The method of claim 1 wherein the second relationship includes identifying indicia associated with the second child part.

[c6]   6. The method of claim 5 wherein the identifying indicia is an ID number.

[c7]   7. The method of claim 5 further comprising determining a revision in the revised bill of materials by locating the second relationship and reading the identifying indicia.

[c8]   8. The method of claim 1 wherein the second child part is a newly added part and the second relationship is an add relationship.

[c9]   9. The method of claim 1 wherein the second child part is removed from the first bill of materials and the second relationship is a remove relationship.

[c10]   10. The method of claim 9 wherein the second child part is listed in the revised bill of materials with the remove relationship.

[c11]   11. The method of claim 1 wherein the second child part is replaced from the first bill of materials with a third child part, and the second relationship is a remove relationship.

[c12]   12. The method of claim 11 further comprising providing a first replacement ID with the second child part.

[c13]   13. The method of claim 12 wherein the third child part is linked to the parent part with an add relationship, and further comprising providing a second replacement ID with the third child part.

[c14]   14. The method of claim 1 wherein a property of the second child is changed from the first bill of materials to the revised bill of materials, and wherein the second relationship is a change property relationship.

[c15]   15. The method of claim 14 further comprising storing, within the revised bill of materials, the property of the second child from the first bill of materials and the property of the second child in the revised bill of materials with the change property relationship.

[c16]

16. A storage medium encoded with machine-readable computer program code for managing changes in a bill of materials, the bill of materials organized in an expandable list format having parent parts and children parts associated with the parent parts, the storage medium including instructions for causing a computer to implement a method comprising:

providing a first bill of materials;

linking a parent part in the first bill of materials with a first child part by a first relationship;

revising the first bill of materials by linking the parent part with a second child part by a second relationship, different than the first relationship; and,

providing a revised bill of materials listing the first child part, first relationship, second child part, and the second relationship.

[c17]   17. A system for managing changes in a bill of materials, the bill of materials organized in an expandable list format having parent parts and children parts associated with the parent parts, the system comprising:

a signal processor having memory for storing signals including program signals defining an executable program for:

providing a first bill of materials;

linking a parent part in the first bill of materials with a first child part by a first relationship;

revising the first bill of materials by linking the parent part with a second child part by a second relationship, different than the first relationship; and,

providing a revised bill of materials listing the first child part, first relationship, second child part, and the second relationship.

[c18]   18. A computer data signal, said computer data signal comprising instructions for causing a computer to implement a method for managing changes in a bill of materials listing a plurality of parts, the method comprising:

providing a first bill of materials;

linking a parent part in the first bill of materials with a first child part by a first relationship;

revising the first bill of materials by linking the parent part with a second child part by a second relationship, different than the first relationship; and,

providing a revised bill of materials listing the first child part, first relationship, second child part, and the second relationship.

[c19]   19. A method of determining a change from a first bill of materials to a revised bill of materials comprising:

reviewing a revised bill of materials;

reading relationships between a parent part and its children parts in the revised bill of materials;

taking note of any altering relationship associated with a child part which includes an add relationship, a remove relationship, a replace relationship, or a

change property relationship; and,

determining the change in the child part in the revised bill of materials by reviewing the altering relationship;

wherein the change is determined absent a comparison of parts in the revised bill of materials to parts in the first bill of materials.

[c20]   20. The method of claim 19 further comprising reading object ID numbers associated with each child part involved in a change for discerning a plurality of changes between a revised bill of materials and a first bill of materials.